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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,123	06/07/2006	Hiromasa Nomura	52433/850	1778

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EXAMINER	
LAVILLA, MICHAEL E	

ART UNIT	PAPER NUMBER
1775	

MAIL DATE	DELIVERY MODE
06/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/582,123	NOMURA ET AL.	
	Examiner	Art Unit	
	Michael La Villa	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2006 (Preliminary Amendment)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20060607*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Regarding Claim 6, silicon is not a conventional metal and so its inclusion as a possible metal species broadens the subject matter of previous Claim 1.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

3. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding Claims 1-3, it is unclear what is meant by the term "precoated." It is unclear what is the coating that is applied to the "precoated" metal sheet. Is this another unspecified coating or one of the mentioned coatings? It is unclear what is meant by the phrase "little affect." Should this be "effect"? It is unclear what constitutes "little affect." It is unclear what is considered to be a "metal oxide" and/or "metal hydroxide." Silicon is not a conventional metal, yet it appears to be encompassed by the claim in view of Claim 6. It is unclear what other unconventional materials, if any, would be encompassed.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

7. A person shall be entitled to a patent unless –

8. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-6 are rejected under 35 U.S.C. 102(b) as anticipated by Yano et al. JP 2001-348678. Yano et al. discloses a coated steel plate that comprises a resin coating film, a chemical conversion treatment film and a plated layer that has fine pits and bumps. Therein, Yano et al. presents methods similar to the mechanical grinding method and the chemical etching method set forth on page 7 of the description of the present application, which are methods for forming pits in the surface of a layer (paragraph [0013]). Yano et al. also presents a method similar to the method set forth on page 7 of the description of the present application wherein a liquid-phase acidic solution and a liquid-phase fluorine ion-containing solution are used to grow metal oxides, which is a method for forming cracks in the surface of a layer (paragraph [0018]). See Yano et al. (Abstract; and paragraphs 7, 13, 17, and 18). While Yano et al. may not specifically mention the formation of cracks, the metal oxide layer that is provided over the fine pits and bumps can be considered to have sections that correspond to the cracks in the present invention. Moreover, even though the articles of Yano contain bumps, which are not explicitly claimed, Yano's articles are produced by means similar to those exemplified by applicant. Furthermore, pits and bumps can be

described as being either pits or bumps depending on the standard of reference for evaluating a surface, and thus the use of the expression "bumps' cannot be said to constitute a technical difference between the inventions in question. With respect to Claims 4 and 5, the claimed dimensions would be expected to be inherently achieved in view of the similar manner of making articles employed by Yano and applicant.

10. Claims 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. JP 04-032577. Sato et al. discloses a feature wherein a porous film comprising metal oxides or metal hydroxides is formed upon the surface of an aluminum member or an aluminum alloy member, and then a resin coating film is coated thereupon. Therein, Sato et al. also presents methods similar to the mechanical grinding method and the chemical etching method set forth on page 7 of the description in the present application, which are methods for forming pits in the surface of a layer. See Sato et al. (Abstract; claims; and page 2, lower left column). With respect to Claim 5, the claimed dimensions would be expected to be inherently achieved in view of the similar manner of making articles employed by Sato et al. and applicant.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Y ano et al. JP 2001-348678. Yano et al. is relied upon as above. Yano et al. may not teach the claimed crack and pit dimensions. However, to the extent that these dimensions are not achieved inherently, it would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the articles of Yano with the full breadth of processing conditions, which would be expected to result in at least a subset of articles whose pit and crack dimensions fall in the claimed range since applicant's methods of achieving these ranges are comparable to the methods of Yano et al. Yano et al. may not exemplify laminates with metal oxide films of the types claimed in Claim 6, but does suggest such films. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the laminates of Yano et al. with metal oxide layer of these claimed types since Yano suggests that such metal oxide film types are effective.

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. JP 04-032577. Sato et al. is relied upon as above. To the extent that the dimensions of Claim 5 are not achieved inherently, it would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the articles of Sato et al. with the full breadth of disclosed processing parameters, which would be expected to result in at least a subset of articles whose pit dimensions fall in the claimed range since applicant's methods of achieving these ranges are comparable to the methods of Sato et al.

Conclusion

15. A translation of Sato et al. JP 04-032577 has been ordered from Translations Branch.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa
23 June 2007

MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER

6. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Regarding Claim 7, it is unclear what is the claimed amount of cobalt as differing amounts are claimed in lines 3 and 5.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

10. A person shall be entitled to a patent unless –

11. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-4 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Skoog et al. USPA 2003/0198750. Skoog et al. teaches applying a reflective mixture of the claimed variety by air spraying to an exhaust component, following which the coated component is fired. Skoog et al. teaches that the coating mixture may be dried before firing and that the component may be degreased prior to application of the reflective mixture. See Skoog et al. (Abstract; paragraphs 9-14, 32, and 40-42). Skoog et al. would be expected to teach the claimed drying times of Claim 3 inherently since Skoog et al. teaches drying and since Skoog et al. teaches reflective mixture compositional ingredients and relative amounts comparable to those of applicant.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claims 3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skoog et al. USPA 2003/0198750. Skoog et al. teaches applying a reflective mixture of the claimed variety by air spraying to an exhaust component, following which the coated component is fired. Skoog et al. teaches that the coating mixture may be dried before firing and that the component may be degreased prior to application of the reflective mixture. See Skoog et al. (Abstract; paragraphs 9-14, 32, and 40-42). Skoog et al. would be expected to teach the claimed drying times of Claim 3 inherently since Skoog et al. teaches drying and since Skoog et al. teaches reflective mixture compositional ingredients and relative amounts comparable to those of applicant. To the extent

that Skoog et al. does not teach the claimed drying times inherently, it would have been obvious to one of ordinary skill in the art at the time of the invention to vary the layer thickness and resulting drying times in order to affect the amount of reflective material within the ranges suggested as effective by Skoog et al. With respect to Claims 5 and 6, it would have been obvious to one of ordinary skill in the art to apply the coatings of Skoog et al. to any component of the gas turbine engine, the temperature of which is elevated during operation, including the forward baffle of a baffle made of nickel based superalloy, as Skoog et al. suggests that components may be conventionally made with these materials and as Skoog et al. suggests that heated components may be effectively protected with these coatings. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the component from any conventional nickel based superalloy, including INCONEL 625, the material of Claim 7, as conventional materials are suggested as effective.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone